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ABSTRACT

Two studies were conducted to develop and refine instruments for measuring nonverbal immediacy, defined as approach behaviors increasing sensory stimulation and producing interpersonal closeness. In the first study, three instruments were developed concurrently and were tested to establish their reliability and preliminary validity. These instruments were the perceived behavioral indicants of immediacy (BII) scale, the generalized immediacy (GI) scale, and the trained raters perceptions of immediacy (RI) scale, which was intended as a validation check for the BII scale. The BII and GI scales were used by more than 250 students and the RI scale was used by three trained observers to rate the nonverbal immediacy of nine male and four female speech instructors. Based on factor analyses of the resultant data, the scales were revised and used in the second study by another group of 256 students participating in a "get acquainted" exercise for their introductory communication course. This second set of data established the unidimensionality and reliability of the GI scale and provided evidence for the further modification of the BII scale. The data also established the predictive validity of these two instruments. Although a two-factor solution appeared in the analysis of the BII scale, closer examination indicated that this solution was really an artifact of negatively worded (avoidance) and positively worded (approach) items, which could be summed to get one score of behavioral immediacy. (RL)

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The Measurement of Nonverbal Immediacy

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Communication research in the 1970s has focused on relational communication. While many studies have examined verbal behaviors in the formation or maintenance of relationships, few have focused on nonverbal behaviors (cf. Ellis, 1978; Fitzpatrick, 1977; Parks, 1977; Wheeless, 1977). Many scholars have argued that nonverbal messages are more pervasive and important than verbal messages, although estimations of importance vary widely (Birdwhistell, 1970; Grant & Hennings, 1971; Mehrabian, 1972). Indeed, Watzlawick, Beavin, and Jackson (1967) argue that most relational messages are nonverbal. For a relationship to begin and to prosper, interactants must engage in nonverbal behaviors that communicate approach, availability, and openness of channels (Argyle & Dean, 1965). Additionally, relationship maintenance and positive relational affect must be communicated by behaviors which signal interpersonal closeness (Mehrabian & Friar, 1969; Mehrabian & Ksionsky, 1970; Nguyen, Heslin, & Nguyen, 1976). The purpose of this report is to review nonverbal "immediacy" behaviors which communicate approach and interpersonal closeness and to provide rating instruments by which immediacy behaviors can be measured.

Definition

Recent research indicates that nonverbal immediacy or intimacy behaviors can be defined in three complementary ways.

1. Mehrabian (1971a) suggests that immediacy behaviors are abbreviated approach behaviors that communicate availability or attentiveness. These are usually sets of behaviors which communicate social accessibility, according to Goffman (1964).

2. Immediacy behaviors also involve an increase in overall sensory stimulation (Mehrabian, 1971a) and are typically multichanneled.

3. Increase in the number and/or intensity of immediacy behaviors produces interpersonal closeness and reduces psychological distance between communicators (Andersen, 1979; Exline & Winter, 1965; Mehrabian, 1971a) in positively valenced relationships. Thus, immediacy behaviors are approach behaviors which increase sensory stimulation and produce interpersonal closeness.

A number of nonverbal behaviors have been studied which together comprise the immediacy construct. These behaviors include: (a) reductions in proxemic distance (Argyle & Dean, 1965; Beier & Sternberg, 1977; Burgoon, 1978; Mehrabian, 1968, 1969a, 1969b, 1971a, 1971b; Mehrabian & Ksionsky, 1970; Sommer, 1967); (b) increases in touch (Andersen & Leibowitz, in press; Beier & Sternberg, 1977; Jourard & Friedman, 1970; Mehrabian, 1969b, 1971a); (c) increases in eye contact or gazing (Argyle & Dean, 1965; Beier & Sternberg, 1977; Coutts & Schneider, 1976; Exline, 1960, 1963; Goffman, 1964; Goldberg, Kiesler, & Collins, 1969; Mehrabian, 1968, 1971b); (d) positive facial expression, particularly smiles (Beier & Sternberg, 1977; Harrington, 1955; Kendon, 1967; Mehrabian, 1971b; Rosenfeld, 1966a, 1966b); (e) positive head nods (Mehrabian, 1971b; Rosenfeld, 1966a, 1966b); (f) increases in gestures (Gauger, 1952; Mehrabian, 1970b, 1971b; Mehrabian & Williams, 1969; Rosenfeld, 1966a, 1966b); (g) bodily relaxation (Mehrabian, 1968, 1969b, 1970a; Mehrabian & Ksionsky, 1970); (h) use of purposeful body movements (Ekman, 1965); (i) spending time with the other interactant(s) (Beier & Sternberg, 1977; Mehrabian 1967); (j) informal dress; (k) orientation of body and head toward the other interactant (Beier & Sternberg, 1977; Mehrabian, 1967, 1968, 1969a); and (l) vocal expressiveness (Coats & Smidchens, 1966). While other nonverbal immediacy behaviors probably exist, this list represents the nonverbal behaviors which have been most commonly studied or are most intuitively obvious.

Observational Framework

Little research has attempted to study nonverbal immediacy behaviors as a gestalt. Most research has examined only the univariate effects of a particular immediacy behavior (e.g., eye contact) on some other variable or variables. While single-variable studies are useful in order to understand the independent effects

of each particular variable, the general immediacy construct cannot be understood with this method. A better approach is to study many immediacy behaviors and the way in which they simultaneously operate. Fortunately, several researchers (Beier & Sternberg, 1977; Mehrabian, 1968, 1969a, 1969b) have examined a number of immediacy behaviors in combination and determined the individual and combined effect of these behaviors on some criterion measure. While this method has been fruitful, both in terms of predictive power and in order to ascertain the effects of specific immediacy behaviors, immediacy must also be studied as a gestalt for two reasons. First, since many immediacy behaviors exist, it is unlikely that any study can systematically isolate all relevant immediacy behaviors or ascertain which combinations had the most effect. Second, some immediacy behaviors operate at low levels of awareness or at a subliminal level and cannot be accurately reported by either the interactants or trained observers when coding interactions. Recent research indicates that cues such as pupil dilation are immediacy cues but that they normally occur outside the awareness of the interactants (Andersen, DiClemente & Todd-DeMancillas, 1978; Hess & Goodwin, 1973; Hess & Petrovich, 1978). While various methods of measuring immediacy should be employed, it is the gestalt perception of the interactants themselves that is most likely to affect subsequent behaviors and relational closeness.

Measurement

Before an instrument was created to assess immediacy, two issues had to be resolved. First, what type of measurement should be employed, and second, who should do the measuring?

Immediacy, like most other nonverbal constructs, can be measured by employing any of three distinct types of observation. First, immediacy can be measured by subjective gestalt perceptions. That is, people can be informed of a definition of immediacy and then asked to respond to general items which measure whether they perceive a person as immediate or nonimmediate. Second, immediacy can also be measured with a checklist of perceived immediacy behaviors. Specific nonverbal behaviors conceptualized as immediate would constitute items on the checklist. Respondents would be asked to what extent they perceived an individual to engage in each of these behaviors. An overall immediacy estimate would then be derived from a summative or weighted total of item responses. A third way to measure immediacy would employ objective counting and coding of individual nonverbal behaviors conceptualized as immediate. Immediacy would be a summative or weighted total of the counted behaviors.

While all three of these approaches yield interesting results, it must be recognized that any conclusions about immediacy will be partly a function of the type of measurement utilized. Determining the relationship between these three types of measurement is itself an important empirical question. However, since this study is most concerned with developing instrumentation to measure communicated immediacy, only instruments measuring gestalt perceptions or perceived nonverbal behaviors indicative of immediacy were developed. The authors suggest that after it has been demonstrated that communicated immediacy is capable of reliable and valid assessment, the next step will be to objectively code, count, and analyze individual nonverbal behaviors and determine their relationship to communicated perception of immediacy.

The second issue prior to scale development concerns who should observe and record immediacy. One alternative is to use specifically trained outside observers A second alternative, however, was that those involved in the interaction could record immediacy. Since the reliability and validity of each approach was an empirical question, both kinds of observers were utilized in this first phase of instrument development.

Significance of the Construct

Nonverbal immediacy has been shown to be important in teacher-student relationships as well as in interpersonal relationships. In instructional contexts,

research generally shows that teacher immediacy is related to teaching effectiveness. Fifty years ago, Barr (1929) published findings indicating that "good" teachers stand more, walk more, gesture more, and use greater numbers of positive head nods. Breed and Colaiuta (1974) found that increased visual contact between teachers and students produced more student comprehension. Harrington (1955) reported that smiling teachers were liked better and produced more rapid student progress. Mehrabian (1971a) suggests that greater gestural animation by teachers is one of a number of immediacy cues that leads to more cooperation and better attitudes on the part of students. Cogan's (1963) research indicated that teachers who manifested acceptant or affiliative behaviors produced higher student test scores. Similarly, Christiansen (1960) found teacher warmth to be related to vocabulary and arithmetic achievement scores. Finally, Andersen (1979) studied immediacy behaviors and gestalt perceptions of immediacy in college communication courses. Her findings revealed that both methods of measuring immediacy led to greater student affect and more behavioral commitment but not to increased short-term cognitive learning. Although more research needs to be conducted, studies have generally found a positive relationship between teacher immediacy and teaching effectiveness.

Similarly, in interpersonal communication contexts, immediacy appears to be related to relational closeness and positive perception of the interactant. Mehrabian (1967) reported that greater directness of head and body orientation was associated with more positive attitudes of communicators toward one another. Increased interpersonal gazing was found by Goldberg, Kiesler, and Collins (1969) to be related to positive socioemotional evaluations. Similarly, McDowell (1973) found that increased eye contact was positively associated with friendliness, self-confidence, dominance, and affiliativeness. Beier and Sternberg (1977) reported that marital satisfaction and agreement were related to a number of immediacy behaviors, including closer distances, more frequent and constant eye contact, more interpersonal touch, less self-touch, and more open leg positions. Mehrabian and Williams (1969) studied the impact of immediacy on persuasion. Greater persuasion was related to small interaction distances, more eye contact, smaller reclining angles, more direct body orientation (for females), moderate head nods, absence of self-manipulations, greater degrees of gesticulation (for females), and lengthier communication interactions. Mehrabian (1968) also established that positive attitudes toward a communicator were related to a number of immediacy behaviors, including smaller distances, more eye contact, more direct body orientation, open, accessible, and relaxed postures, and increased forward leans (while seated). Likewise, Mehrabian (1970a) found that more immediacy was manifested toward liked than toward disliked addressees. Finally, Jensen and Andersen (1979) found that more overall immediacy resulted in perceptions of significantly more credibility, homophily, attraction, opinion leadership, and relational solidarity.

Evidently immediacy behaviors are important to successful communication and positive interpersonal perceptions in at least the instructional and interpersonal contexts. The purpose of this report is to provide several reliable, valid measurement scales for assessing immediacy in these two contexts.

STUDY 1: INSTRUCTIONAL IMMEDIACY SCALES

Methods

This study sought to establish reliability and preliminary validity for immediacy instruments utilized in an instructional environment. Three instruments were developed concurrently: (a) the perceived behavioral indicants of immediacy (BII) scale, (b) the generalized immediacy (GI) scale, and (c) the trained raters perceptions of immediacy (RI) scale.

Setting for Instrument Development

Nine male and four female instructors in 13 sections of an introductory college communication course were rated using the BII, GI, and RI immediacy scales. This

instructional environment was selected for the development of the three immediacy instruments because all three instruments could be used simultaneously for rating instructors teaching the same content at approximately the same time on the same day. The course employs a mastery design and is highly structured; the course director provides teaching outlines and instructional objectives for each session.

Students enrolled in the introductory course completed two instruments (the BII scale and the GI scale) to assess teacher immediacy during each of two consecutive class meetings. On day one, 281 students completed instruments, while 267 completed instruments on day two. Three trained observers also rated each instructor's immediacy on both data collection days.

Creation of the Immediacy Scales

BII scale. The behavioral indicants of immediacy scale was developed by writing a positively worded and a negatively worded Likert item for each of the 12 nonverbal behaviors discussed as immediacy behaviors in the introduction. Two additional behaviors which Brown (1965) identifies as solidarity or closeness behaviors were also included; these measure communicating on the same spatial plane and communicating side by side. These 14 potential immediacy behaviors created the original 28-item BII scale (see Figure 1).

GI scale. The generalized immediacy scale was developed to measure immediacy as a conceptual gestalt. A short paragraph was written to define the immediacy construct as outlined in the literature review. Following the paragraph, students were asked to indicate their agreement with the statement that the teaching style of their instructor is very immediate. Five widely used evaluative semantic differential scales (Osgood, Suci, & Tannenbaum, 1957) assessed agreement. Four additional semantic differential scales were created to assess overall immediacy: immediate/not immediate, warm/cold, friendly/unfriendly, and close/distant. The entire GI scale is reported in Figure 2.

RI scale. A 16-item immediacy scale was also created for use by trained observers because of concern that interacting individuals would not be able to validly rate the immediacy of another interactant. The trained raters perceptions of immediacy scale was a list of the same nonverbal behaviors contained in the BII scale. Raters marked on a one-to-nine scale the extent to which these nonverbal behaviors were observed. One additional body position item (open/closed) was added, since it was felt that trained observers could use this category correctly, whereas classroom interactants with little knowledge of nonverbal behavior would have no information about what constituted an open or closed body position. Finally, an overall immediacy item was added to the RI scale. The complete RI scale is reported in Figure 3.

During a two-hour training session, 15 raters were taught to reliably recognize and code immediacy behavior. A lecture on the immediacy construct was presented, followed by questions. The RI scale was distributed, and a discussion of each scale item followed. Examples for each immediacy item were provided, and both the trainer and the raters demonstrated variations in immediacy while the other rates discussed how to score the behavior. Next, university instructors presented five- to 10-minute teaching units to the raters. The first two instructor presentations were only for practice and familiarity purposes. After each of the two instructors finished the presentation, the raters filled out an immediacy scale. Then the trainer led a discussion about each of the scaled items and rater agreements and disagreements. Discrepant raters discussed why they had marked the scale that way. and raters came to agreements about the most appropriate markings.

Four additional instructors (two males and two females) presented mini-teaching units to pre-test the RI scale by assessing rater reliability as well as providing for additional practice. Limited discussion followed each of these presentations, but it did not begin until all scales had been marked and turned in.

Interrater reliability of .70 had been determined as a minimum criterion to proceed from the pre-test to the research investigation. Rater reliability was computed following the training session by correlating all 15 raters' observations for the four instructors for each of the 16 observed behaviors. Nunnally's (1967) internal reliability formula 6-18 (coefficient alpha) was computed for each immediacy behavior. The lowest interrater reliability estimate on any nonverbal behavior was .90. All but two immediacy behaviors were reliably coded above .98; thus, one training session was determined highly adequate, and the instrument was ready for classroom use.

For the principal investigation, the trained raters, in groups of three, observed one of the 13 stimulus teachers for an entire class period. Each classroom was observed on two consecutive teaching days by at least three raters each day. No rater observed the same teacher twice, and rater groups were scrambled as much as possible so that raters rated with as many other different raters as possible.

Statistical Analysis

All three scales were submitted to factor analysis to determine dimensional structure. Since all scales were conceptualized as unidimensional, unidimensionality was sought, but multidimensional solutions were examined in light of viability and interpretability. All factor analysis performed in Study 1 used orthogonal rotation. A factor was considered viable if two or more items loaded on that factor above .55 and less than .40 on other factors. An internal reliability estimate of .80 was also established as a secondary guideline for extracting factors in order to ensure consistently high reliability estimates for scales.

Measures of internal reliability and test-retest reliability were computed for each of the three scales.

Results

Factor Structure and Reliability of Immediacy Scales

BII scale. Results yielded a reliable 15-item unidimensional instrument (the BII) which measures the perceived immediacy of an instructor. The original 28-item BII scale was completed during each of two consecutive class sessions, and the 548 completed responses were subjected to principal components factor analysis with varimax rotation. Nine factors had eigenvalues greater than one, so all solutions between one and nine factors were examined. The only solution with a viable structure, as operationalized in the methods section, was a one-factor solution. Fifteen items loaded .53 or higher and were retained. Thirteen items were dropped because they loaded .45 or less. Ten of these were considered less central to the immediacy construct and dealt with instructor dress, amount of student discussion, teacher position in the classroom, and the amount of time spent with students. Two of the other items dealt with touch. Although touch is an important immediacy behavior, the college classroom context severely constrains its manifestation. In fact, no touch was observed for any instructor. The final item (item 27) was worded poorly and was probably incomprehensible. Finally, the 15 retained items were re-factor-analyzed as a 15-item instrument. This analysis produced an unrotated structure where all items loaded above .55 (see Table 1).

Reliability for the 15-item BII scale was more than adequate. Split-half reliability coefficients for this scale were .91 for the first observation day and .93 for the second observation day. Correlations for each individual with the scaled total (item-total correlations) are reported in Table 2. The test-retest correlation between the immediacy scores on observation days one and two was .74, and .80 when correcting for attenuation (Nunnally, 1967). The 15-item BII scale along with scoring instructions appears in Figure 1.

GI scale. Results also yielded a reliable nine-item measure of generalized or gestalt immediacy for instructors. Factor analysis for the 548 responses of the

nine semantic differential scales yielded a one-factor solution with an eigenvalue of 6.78 for the first factor, with all other eigenvalues less than one. Loadings for all nine items ranged from .73 to .93.

Reliability for the nine-item GI scale was very adequate. Internal reliability (coefficient alpha) for the first observation day was .96 and for the second observation day was .97. The test-retest correlation between generalized immediacy scores on days one and two was .81, and .84 when correcting for attenuation (Nunnally, 1967). The nine-item GI scale along with scoring instructions appears in Figure 2.

RI scale. A 16-item measure of rater immediacy for instructors was produced by factor analysis. The original 16-item rater scale from the last phase of the training session and from the classroom observation (N = 136) was submitted to a principal components factor analysis. Although the number of observations was too low to produce a stable factor structure, a one-dimensional solution was indicated (see Table 3). Other solutions were not interpretable.

One of the purposes of creating the RI scale was to validate the BII scale. Thus, items which were dropped from the BII scale were also dropped from the RI scale to form a new, 11-item RI scale which was isomorphic with the conceptual domain of the BII scale. Items 2, 3, 4, 14, and 15 were deleted from this phase of the analysis. This revised rater immediacy scale was factor-analyzed. Factor loadings on the unrotated solution ranged from .47 to .87 (see Table 3). All criteria suggested a unidimensional solution.

The 11-item RI scale and the 16-item RI scale correlated .96, and both were more than adequately reliable. The 16-item scale produced interrater reliability coefficients for each instructor which ranged from .79 to .97. The split-half reliability estimate for the 16-item instrument was .77. Item-total correlations are reported in Table 3. The revised 11-item rater immediacy scale had a split-half internal reliability estimate of .82. It was this 11-item instrument that was used to validate the BII scale.

Validity of the Instructional Immediacy Instruments

Validity of BII Scale

Four independent methods for validating the BII scale were employed. First, content validity (Cronbach & Meehl, 1967), sometimes called face validity, was built into the instrument by writing items which tapped each immediacy behavior. Factorial validity (Cronbach, 1949) was established through factor-analytic procedures. The predictive validity of the BII scale was established by Andersen (1979), who reported that scores on the BII scale significantly predicted student affect and behavioral commitment toward the course. Finally, concurrent validity was established by correlating student perceptions (BII) and trained raters' perceptions (RI) of the same instructors. The correlation between section instructor means on the BII and the same section instructor means on the RI was .80; when correcting for attenuation, the correlation was .92. Since the two instruments used different raters, scales, scale ranges, and response formats, the correlation of .92 suggests that students perceive teacher immediacy behaviors in the same way that trained raters perceive immediacy behaviors.

Validity of GI Scale

Content validity and factorial validity exist for the GI scale in the same way they exist for the BII scale. The GI scale has also been established as predictive of student affect and behavioral commitment toward a course (Andersen, 1979). In fact, her data demonstrate an even stronger relationship between the GI scale and student affect and behavioral commitment than is established by the BII scale.

Concurrent validity for the GI is more difficult to establish both conceptually and empirically. There was no rater scale designed to be isomorphic with the GI scale. One item on the rater scale (item 16) which assesses overall immediacy may

appear on the surface to be isomorphic with generalized immediacy. However, overall immediacy for raters was more reflective of the sum of specific immediacy behaviors assessed on the RI scale than of a gestalt impression. The evidence for this conclusion is based on a correlation of .43 between GI score and item 16 (overall immediacy) on the RI scale and a correlation of .64 between BII score and item 16. Furthermore, item-total correlations demonstrate item 16 to be correlated .89 with the RI total; this is even the highest item-total correlation.

Gestalt impressions of immediacy are related to perceptions of the performance of specific immediacy behaviors. Student perceptions of teacher immediacy as measured by the BII scale correlated .68 with scores on the GI scale. This is to some extent what ought to be expected, since synergistic principles argue that gestalt impressions cannot be expected to be completely broken down into component summative elements.

STUDY 2: INTERPERSONAL IMMEDIACY SCALES

Methods

This study sought to establish reliability and preliminary validity for immediacy instruments utilized in an interpersonal communication context. Two instruments were modified: the behavioral indicants of immediacy scale and the generalized immediacy scale.

Setting for Instrument Development

Subjects for this study were 256 students enrolled in a multisectioned introductory communication course at a major eastern university. These subjects were selected because an initial acquaintance exercise, already incorporated into the course schedule, could serve as a cover for the research investigation.

During the second week of classes, subjects were randomly assigned to dyads as part of a classroom acquaintance exercise. Instructors balanced same-sex and opposite-sex dyads as much as possible, and all partners were not previously acquainted. The subjects were instructed to "get acquainted" during a five-minute period and to find out at least five things about the other person. After the acquaintance exercise was completed, subjects completed immediacy scales on their partners.

Creation of Interpersonal Immediacy Scales

BII scale. The original 28-item BII scale for instructional contexts was altered to reflect dyadic perceptions of immediacy. Eleven of the 12 immediacy behaviors reviewed in the literature review were included in this scale. Due to an oversight, use of positive head nods was not included. Each of these nonverbal immediacy behaviors constituted two Likert-type scale items, one worded positively and one worded negatively (see Figure 4 for the instrument).

GI scale. The generalized immediacy scale used in the instructional context was slightly modified to fit an interpersonal setting. In the description of immediacy, the word "teacher" was replaced by the word "person", and "teaching style" became "conversational style".

Statistical Analysis

Both the BII and the GI scales were submitted to factor analysis to determine their dimensional structure for interpersonal contexts. As in Study 1, unidimensionality was sought, but multidimensional solutions were examined. The unrotated factor structure was examined first. Then both orthogonal (varimax rotation) and oblique solutions were examined to determine the best fit for the data. The scree procedure recommended by Cattell (1952) and the establishment of an eigenvalue of one were employed as initial criteria to determine number of factors. For orthogonal solutions, an item was required to have a primary loading above .60 and no secondary loading above .40 to be retained. For the oblique solution, an item was

required to have a primary loading above .40 to be retained. Factors were not considered meaningful unless two or more items loaded on that factor.

An additional criterion was employed in developing the BII scale. In the preceding section, it was reported that for each immediacy behavior both a positively worded (approach) item and a negatively worded (avoidance) item were created. In order to preserve the approach/avoidance nature of the immediacy construct, items were deleted from the scale if both the approach item and the avoidance item failed to meet all of the factor retention criteria.

Results

Factor Structure and Reliability of the Immediacy Scales

BII scale. Results yielded a reliable 20-item, conceptually unidimensional instrument. Factor analysis of the 22-item interpersonal version of the BII scale suggested a two-factor solution with a unidimensional interpretation. An analysis of the unrotated factor matrix did not suggest a one-factor solution; item loadings were generally low (see Table 4). An orthogonal solution of two or more solutions was not viable either, as only one item met criteria for loading on the second factor. A two-factor oblique solution did meet previously reported criteria (see Table 4).

Closer examination of the two-factor solution, however, suggested that a two-factor solution was a statistical artifact. Negatively worded or avoidance behaviors loaded on the first factor, and positively loaded or approach behaviors loaded on the second factor. Conceptually the instrument should be treated unidimensionally in that an immediacy score is derived by summing across factors.

Two items were deleted from the original 22-item version. Both items dealing with dress failed to load above .40 on the oblique solution on either factor and were thus deleted. Three other items (items 5, 6, and 21) failed to load above .40, but their opposite-worded counterpart met criteria. Therefore, a 20-item BII scale is suggested for future use. Split-half internal reliability for the 20-item BII scale was computed to be .73.

GI scale. The interpersonal GI scale was unidimensional and reliable. The unrotated factor structure for the nine semantic differentials supported a unidimensional solution; five of the nine items loaded above .86, and all loaded above .70. An internal reliability estimate (coefficient alpha) of above .95 was computed.

Validity of the Interpersonal Immediacy Measures

Factorial and content validity established for the instructional immediacy instruments is similarly argued for the interpersonal immediacy instruments. Face validity for the interpersonal context should be obvious from reading the instruments. Predictive validity for both the interpersonal BII and GI scales is established by Jensen and Andersen (1979). They report interpersonal immediacy to significantly predict interpersonal perceptions of credibility, attraction, homophily, solidarity, and opinion leadership.

DISCUSSION

Immediacy is one of the major ways affect or closeness is communicated in interpersonal relationships (Mehrabian, 1971a). This paper reports the development of measuring instruments to assess the nonverbal communication of affect and closeness. The social significance of communicating affect for building and maintaining effective interpersonal relationships suggests the importance of this area for scientific investigation. The instruments reported in this study should aid future research in this area.

These instruments, however, have several limitations that should be noted by future researchers. The factor structure and the item pool for the BII scale need

additional validation. The wording for some items need clarification. For example, the phrase "less distant than" was unreliable in both studies and should be reworded to delete conceptual double negative. The paragraph explaining immediacy in the generalized scale should be altered to verify that the subjects are responding to the immediacy construct rather than to some artifact or idiosyncrasy of the paragraph itself.

Furthermore, all instruments have been utilized in limited contexts, and any generalizations beyond these contexts should be cautious. The instructional instruments were only used in college communication courses. These instruments need to be tested in courses with a variety of content areas and should also be extended to elementary and secondary educational environments. The interpersonal instruments were only used in a structured initial acquaintance exercise with college students. They need to be tested in unstructured settings, in intermediate and long-term acquaintanceships, and in a variety of other contexts, such as social environments, business settings, medical, legal, and other professional situations, families, etc., with people from various age groups.

These instruments also only assess nonverbal immediacy. Verbal immediacy cues have received limited research attention (cf. Mehrabian & Wiener, 1966), but additional research efforts are needed here. Even more importantly, future research needs to examine the interrelationships (complementarity and substitution functions between verbal and nonverbal immediacy cues. Research which examines the integration of verbal and nonverbal message systems is necessary for a full understanding of communication processes.

Additional components of the immediacy construct need investigation. For example, body symmetry (cf. Davis, 1971; Scheflen, 1972), micromomentary facial expressions (Ekman, Friesen, & Ellsworth, 1971; Haggard & Isaacs, 1966), quasi-courtship behaviors (Scheflen, 1965), and olfactory messages (Elliot & Jensen, 1978) might be investigated for their potential in communicating immediacy. Hierarchical immediacy factors might be demonstrated whereby eventual immediacy instruments would assess immediacy along a variety of factors. Overall immediacy might then be defined as a subjunctive concept (this and this and this) derived from a combined additive weighting of factors. Immediacy might also be defined as a conjunctive concept (this or this or this) derived from a score on any one significant factor. The eventual most predictive conceptualization of immediacy remains an empirical question.

Finally, the relationship among actual objectively counted and coded immediacy behaviors, perceptions of immediacy behaviors, and perceptions of an immediacy gestalt need research investigation. All three of these operationalizations in immediacy measurement are useful and potentially predictive, but what they predict is an important research question. Path-analytic models, Markov chains, and other causal analyses should be employed to predict the relationship among these three operationalizations of immediacy and other communication behaviors, perceptions, and attitudes. If conclusions about immediacy effects contain mention of what kind of immediacy was studied, theory building with the immediacy construct should be more systematic and accurate.

Table 1

Principal Components Factor Analysis
(Unrotated Solution) Loadings
for the BII Scale (N = 548)

Item*	Loadings on Factor Structure Generated From 28-Item Instrument	Loadings on Factor Structure Generated From 15-Item Instrument
1	.63	-.66
2	-.40	+
3	-.57	.57
4	.53	-.56
5	-.63	.66
6	.21	+
7	-.17	+
8	.63	-.63
9	.67	-.68
10	-.12	+
11	.54	-.57
12	-.01	+
13	-.60	.64
14	-.41	+
15	.20	+
16	.42	+
17	.71	-.71
18	-.61	.62
19	-.54	.55
20	-.58	.62
21	.63	-.65
22	-.22	+
23	.09	+
24	.19	+
25	-.68	.71
26	-.58	.61
27	.42	+
28	.45	+

*See Figure 1 for the items.

+Excluded from this analysis.

Table 2

Item-Total Correlations
for the BII Scale

Item*	Time One Item Correlations with Total Score+	Time Two Item Correlations with Total Score+
1	.65	.68
3	-.56	-.61
4	.51	.66
5	-.67	-.65
8	.62	.66
9	.68	.67
11	.56	.58
13	-.64	-.63
17	.68	.74
18	-.54	-.69
19	-.54	-.58
20	-.60	-.64
21	.65	.65
25	-.73	-.66
26	-.58	-.65

*See Figure 1 for the items.

+Time one, N = 281; time two, N = 267.

Table 3

Principal Components (Unrotated) Factor Analysis
of the Rater Immediacy Scale
and Item-Total Correlations (N = 139)

Behavior Number*	Item Loading on 16-Item Instrument	Item Correlation to Total on 16-Item Instrument	Factored Item Loading on Revised Scale	Item Correlation to Revised Total
1	.52	.41	.47	.31
2	-.07	.08**	+	+
3	.55	.40	+	+
4	.48	.33	+	+
5	.56	.63	.54	.61
6	.77	.63	.78	.62
7	.71	.59	.71	.63
8	.66	.37	.65	.46
9	.69	.47	.71	.54
10	.63	.56	.66	.62
11	.78	.61	.78	.65
12	.66	.44	.67	.48
13	.72	.62	.75	.67
14	.13	.20**	+	+
15	-.20	-.00**	+	+
16	.86	.73	.87	.74

*See Figure 3 for the items.

**Not statistically significant at $p < .05$.

+Items dropped from scale so that an instrument isomorphic with the student perceptions of immediacy (BII) scale would be created.

Table 4

Factor Analysis for the BII Scale,
Interpersonal Context

Item	Unrotated Factor Structure	Rotated Oblique Two-Factor Solution	
		Avoidance Factor	Approach Factor
1	-.41	-.20	.54*
2	.23	.40*	.13
3	-.20	.03	.46*
4	.32	.41*	-.05
5	.21	.22	-.09
6	-.24	-.08	.37
7	-.48	-.22	.65*
8	-.57	-.38	.60*
9**	-.19	.01	.397
10	.43	.50*	-.12
11	-.60	-.46*	.54*
12	-.26	-.04	.47*
13	-.63	-.47*	.59*
14	.57	-.62*	-.23
15	.49	.60*	-.11
16	.44	.52*	-.12
17	-.30	-.06	.52*
18	.25	.37	.05
19	.67	.70*	-.32
20	.60	.63*	-.27
21**	-.27	-.11	.39
22	.53	.58*	-.21

*Item loading above .40 on oblique solution.

**Neither of these items met .40 criterion, and they were the counterparts of each other. Thus, these two items were deleted from the scale.

Figure 1

Behavioral Indicants of Immediacy (BII) Scale,
Instructional Context

Please mark these scales to indicate how you perceive your instructor in the teaching role. Please mark the following statements to indicate whether you: (7) strongly agree; (6) agree; (5) moderately agree; (4) are undecided; (3) moderately disagree; (2) disagree; or (1) strongly disagree. Please record the number of your responses in the space provided beside each statement. There is no correct answer. Simply record your perceptions. Some of the questions may seem similar, but this is necessary.

_____ *1. This instructor engages in more eye contact with me when teaching than most other instructors.

_____ 2. Students discuss less in this class than most other classes.

_____ *3. This instructor has a more tense body position while teaching than most other instructors.

_____ *4. This instructor gestures more while teaching than most other instructors.

_____ *5. This instructor engages in less movement while teaching than most other instructors.

_____ 6. This instructor sits in a student desk less than most other instructors when teaching.

_____ 7. This instructor touches students less than most other instructors when teaching.

_____ *8. This instructor has a more relaxed body position while teaching than most other instructors.

_____ *9. This instructor directs his/her body position more toward students while teaching than most other instructors.

_____ 10. This instructor stands in front of the classroom less than most other instructors while teaching.

_____ *11. This instructor smiles more during class than most other instructors.

_____ 12. This instructor dresses less informally than most other instructors when teaching.

_____ *13. This instructor engages in less eye contact with me when teaching than most other instructors.

_____ 14. This instructor spends less time with students before and after class than most instructors.

_____ 15. This instructor touches students more than most other instructors when teaching.

_____ 16. Students discuss more in this class than in most other classes.

_____ *17. This instructor is more vocally expressive while teaching than most other instructors.

____ *18. This instructor is more distant from students while teaching than most other instructors.

____ *19. This instructor directs his/her body position less toward students while teaching than most other instructors.

____ *20. This instructor gestures less while teaching than most other instructors.

____ *21. This instructor engages in more movement while teaching than most other instructors.

____ 22. This instructor sits in a student desk more often than most other instructors while teaching.

____ 23. This instructor dresses more informally than most other instructors when teaching.

____ 24. This instructor stands in front of the classroom more than most other instructors while teaching.

____ *25. This instructor is less vocally expressive while teaching than most other instructors.

____ *26. This instructor smiles less during class than most other instructors.

____ 27. This instructor is less distant from students than most other instructors while teaching.

____ 28. This instructor spends more time with students before and after class than most other instructors.

*These items constitute the 15-item behavioral indicants of immediacy scale. To obtain an immediacy score, use this formula:

1. Total the subject's response for the following scale items: 1, 4, 8, 9, 11, 17, 21. Call this X.
2. Total the subject's response for the following scale items: 3, 5, 13, 18, 19, 20, 25, 26. Call this Y.
3. Immediacy score = X - Y + 64.

Figure 4

Generalized Immediacy (GI) Scale,
Instructional Context

Immediate behaviors are those communication behaviors that reduce distance between people. Immediate behaviors may actually decrease the physical distance, or they may decrease the psychological distance. The more immediate a person is, the more likely he/she is to communicate at close distances, smile, engage in eye contact, use direct body orientations, use overall body movement and gestures, touch others, relax, and be vocally expressive. In other words, we might say that an immediate person is preceived as overtly friendly and warm.

Please place an "X" in <u>each</u> of the following scales to indicate your agreement with the following statement:

IN YOUR OPINION, THE TEACHING STYLE OF YOUR INSTRUCTOR IS VERY IMMEDIATE.

agree	_:_:_:_:_:_:_	disagree
false	_:_:_:_:_:_:_	true
incorrect	_:_:_:_:_:_:_	correct
wrong	_:_:_:_:_:_:_	right
yes	_:_:_:_:_:_:_	no

Please place an "X" in <u>each</u> of the following scales to indicate the word that best describes the teaching style of your instructor.

immediate	_:_:_:_:_:_:_	not immediate
cold	_:_:_:_:_:_:_	warm
unfriendly	_:_:_:_:_:_:_	friendly
close	_:_:_:_:_:_:_	distant

<u>Scoring Instructions</u>

1. Number each subject's response by numbering each scale from left to right (1-7).
2. Total the subject's response for the following scales: false/true, wrong/right, cold/warm, and unfriendly/friendly. Call this X.
3. Total the subject's response for the other five scales. Call this Y.
4. Generalized immediacy score = X - Y + 40.

Figure 3

Trained Raters Perceptions of Immediacy (RI) Scale

far	1 2 3 4 5 6 7 8 9	close	DISTANCE FROM STUDENTS (1)
standing	1 2 3 4 5 6 7 8 9	sitting in student desk	TEACHER POSITION* (2)
in front of class	1 2 3 4 5 6 7 8 9	within class	TEACHER POSITION (3)
none	1 2 3 4 5 6 7 8 9	very much	TOUCHING STUDENTS* (4)
not directed to students	1 2 3 4 5 6 7 8 9	directed to students	BODY POSITION (5)
tense	1 2 3 4 5 6 7 8 9	relaxed	BODY POSITION (6)
closed	1 2 3 4 5 6 7 8 9	open	BODY POSITION (7)
none	1 2 3 4 5 6 7 8 9	very much	BODY MOVEMENT (8)
none	1 2 3 4 5 6 7 8 9	very many	PURPOSEFUL GESTURES (9)
none	1 2 3 4 5 6 7 8 9	very many	POSITIVE HEAD NODS (10)
none	1 2 3 4 5 6 7 8 9	very many	SMILES (11)
none	1 2 3 4 5 6 7 8 9	always	EYE CONTACT WITH STUDENTS (12)
not at all	1 2 3 4 5 6 7 8 9	very much	VOCALLY EXPRESSIVE (13)
formal/ uniform like	1 2 3 4 5 6 7 8 9	informal/ individual	DRESS/PHYSICAL APPEARANCE: (14)
not at all	1 2 3 4 5 6 7 8 9	always	TEACHER TALKS* (15)
low	1 2 3 4 5 6 7 8 9	high	OVERALL IMMEDIACY (16)

Rater Number _____

Class Time _____

*These items were deleted to produce an instrument conceptually isomorphic to the BII scale. The other 11 behaviors created the revised rater immediacy scale.

Figure 4

Behavioral Indicants of Immediacy (BII) Scale,
Interpersonal Context

Directions

Please complete the following scales to indicate how you see the relationship between you and the other person. Please mark the following statements to indicate whether you: (7) strongly agree; (6) agree; (5) moderately agree; (4) are undecided; (3) moderately disagree; (2) disagree; or (1) strongly disagree. There is no correct answer. Simply record your perceptions. Some of the questions may seem similar, but this is necessary.

_____ 1. This person engages in more eye contact with me than most other people.

_____ 2. This person's body is more tense than most other people.

_____ 3. This person gestures more than most other people.

_____ 4. This person engages in less movement than most other people.

_____ 5. This person touches me less than most other people usually do.

_____ 6. This person has a more relaxed body position than most other people.

_____ 7. This person directs his/her body position more toward me than most other people usually do.

_____ 8. This person smiles more than most other people.

_____ *9. This person dresses more formally than most other people.

_____ 10. This person engages in less eye contact with me than most other people.

_____ 11. This person seems eager to spend time talking with me.

_____ 12. This person touches me more than most other people.

_____ 13. This person is more vocally expressive than most other people.

_____ 14. This person seemed more distant from me than most other people.

_____ 15. This person directs his/her body position less toward me than most people usually do.

_____ 16. This person gestures less than most other people.

_____ 17. This person engages in more movement than most other people.

_____ *18. This person dresses more informally than most other people.

_____ 19. This person is less vocally expressive than most other people.

_____ 20. This person smiles less than most other people.

_____ 21. This person seemed less distant from me than most other people.

_____ 22. This person seemed reluctant to spend time talking to me.

*Dropped from scale because of failure to load above .40.

Scoring Instructions

1. Total the subject's response for the following items: 1, 3, 6, 7, 8, 11, 12, 13, 17, 21. Call this X.

2. Total the subject's response for the following items: 2, 4, 5, 10, 14, 15, 16, 19, 20, 22. Call this Y.

3. Immediacy score = X - Y + 80.

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